

67



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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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NEW YORK, NY 10112

EXAMINER

SMITH, TYRONE W

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2837

DATE MAILED: 04/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/918,872

Applicant(s)

SCHAEFERS ET AL.

Examiner

Tyrone W Smith

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 31 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 31 March 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3, and 5-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson (5355060) in view of Nagano (5404418). Peterson discloses a load impact controller for a speed regulator system, which includes rotational speed control loop (Figure 1 item 34), a current control loop (Figure 1 item 16) arranged inside a rotational speed control loop. The rotational speed control loop includes a controller with a proportional component integral component (PI) (Figure 1 #38) and a low pass filter (Figure 5 #28). The low pass filter, precharged, for decreases the speed of the drive motor until the speed reaches a steady state speed. Refer to the abstract, column 3 lines 60-68, column 4 lines 1-64, column 12 lines 51-68 and column 13 lines 1-15. However, Peterson does not describe the filter suppressing resonances in the controlled system. Nagano discloses a closed loop feedback control system having an adaptive filter which includes a filter unit (Figure 1 item 9) to suppress any machine resonance frequencies found in the operation signal due to load fluctuation, machine variations and operating environment changes (Refer to the abstract; column 3 lines 45-68, column 4 lines 1-5 and column 10 lines 25-52). It would have been obvious to one of ordinary skill in the art at the time of invention to combine Peterson's invention of a load impact controller for a speed regulator system with Nagano's closed loop feedback control system having an adaptive filter.

The advantage of combining the two would provide a system for suppressing the machine resonance occurring in driving load to make adjustment unnecessary, and ensure a satisfactory resonance suppressing effect in the event the machine resonance frequency changes during operation.

Regarding Claims 3, 5, 6, 7 and 8 where the filter is described as a second and eighth order system. Refer to Nagano in the abstract as well as column 3 lines 45-68, column 4 lines 1-5 and column 10 lines 25-52.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3 and 5-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Tsutsumishita (5712546) in view of Nagano (5404418). Tsutsumishita discloses an encoder for providing servo motor control, which includes a rotational speed control loop (Figure 1), a current control loop (Figure 1) arranged inside a rotational speed control loop. The rotational speed control loop includes a controller (Figure 1 item 15) with a proportional component integral component (PI) capabilities. However, Tsutsumishita does not disclose a low pass filter or similar for suppressing resonances in the controlled system. Nagano discloses a closed loop feedback control system having a adaptive filter which includes a filter unit (Figure 1 item 9) to suppress any machine resonance frequencies found in the operation signal due to load fluctuation, machines variations and operating environment changes (Refer to the abstract;

column 3 lines 45-68, column 4 lines 1-5 and column 10 lines 25-52). Tsutsumishita's invention of an encoder for providing servo motor control with Nagano's closed loop feedback control system having an adaptive filter. The advantage of combining the two would provide a system for suppressing the machine resonance occurring in driving load to make adjustment unnecessary, and ensure a satisfactory resonance suppressing effect in the event the machine resonance frequency changes during operation.

Regarding Claims 3, 5, 6, 7 and 8 where the filter is described as a second and eighth order system. Refer to Nagano in the abstract as well as column 3 lines 45-68, column 4 lines 1-5 and column 10 lines 25-52.

Examiner's Response

8. Applicant's arguments filed March 31, 2003 have been fully considered but they are not persuasive.

Applicant contends that the Nagano reference does not disclose a PDT2 filter or a Cauer filter. Examiner takes arguments in full consideration.

Examiner refers to claim 1 where the phase saving low pass filter, selected from a group consisting of a PDT2 element and a Cauer filter, for suppressing resonance in the controlled system. Nagano discloses a closed loop feedback control system having an adaptive filter, which includes a filter unit to suppress any machine resonance frequencies, found in the operation signal due to load fluctuation, machines variations and operating environment changes. This is described in the abstract. The phase-saving low pass filter with the PDT2 filter and Cauer filter is equivalent to the filter described by Nagano, thus performing the same function.

Examiner suggests that the Applicant amend and distinguish the PDT2 filter and Cauer filter. Rejection based on 35 U.S.C. 103(a) is maintained.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tyrone W Smith whose telephone number is 703-306-5987. The examiner can normally be reached on weekdays from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi, can be reached on (703) 308-3370. The fax phone number for the organization where this application or proceeding is assigned is 703-308-3431.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

Tyrone Smith

Art Unit 2837


ROBERT E. NAPPI
SUPERVISORY PATENT EXAMINER
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